PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

RECEIVED
03 FEB 2004
WIPO PCT

| Applicant's or agent's file reference | FOR FURTHER ACTION | See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416). |
|---|---|---|
| 108695 | | |
| International Application No. | International Filing Date *(day/month/year)* | Priority Date *(day/month/year)* |
| PCT/AU2003/000802 | 26 June 2003 | 26 June 2002 |
| International Patent Classification (IPC) or national classification and IPC | | |
| Int. Cl. [7] G01V3/14, G01R 33/20 | | |
| Applicant | | |
| QR SCIENCES TECHNOLOGIES PTY LTD et al | | |

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 3 sheets, including this cover sheet.

   ☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

   These annexes consist of a total of sheet(s).

3. This report contains indications relating to the following items:

| | | |
|---|---|---|
| I | ☒ | Basis of the report |
| II | ☐ | Priority |
| III | ☐ | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| IV | ☐ | Lack of unity of invention |
| V | ☒ | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| VI | ☐ | Certain documents cited |
| VII | ☐ | Certain defects in the international application |
| VIII | ☐ | Certain observations on the international application |

| Date of submission of the demand | Date of completion of the report |
|---|---|
| 31 December 2003 | 21 January 2004 |
| Name and mailing address of the IPEA/AU | Authorized Officer |
| AUSTRALIAN PATENT OFFICE<br>PO BOX 200, WODEN ACT 2606, AUSTRALIA<br>E-mail address: pct@ipaustralia.gov.au<br>Facsimile No. (02) 6285 3929 | ROBERT BARTRAM<br>Telephone No. (02) 6283 2215 |

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/AU2003/000802

## I. Basis of the report

1. With regard to the elements of the international application:*

[X] the international application as originally filed.

[ ] the description, pages , as originally filed,
pages , filed with the demand,
pages , received on with the letter of

[ ] the claims, pages , as originally filed,
pages , as amended (together with any statement) under Article 19,
pages , filed with the demand,
pages , received on with the letter of

[ ] the drawings, pages , as originally filed,
pages , filed with the demand,
pages , received on with the letter of

[ ] the sequence listing part of the description:
pages , as originally filed
pages , filed with the demand
pages , received on with the letter of

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.
These elements were available or furnished to this Authority in the following language which is:

[ ] the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).

[ ] the language of publication of the international application (under Rule 48.3(b)).

[ ] the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

[ ] contained in the international application in written form.

[ ] filed together with the international application in computer readable form.

[ ] furnished subsequently to this Authority in written form.

[ ] furnished subsequently to this Authority in computer readable form.

[ ] The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

[ ] The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

4. [ ] The amendments have resulted in the cancellation of:

[ ] the description, pages

[ ] the claims, Nos.

[ ] the drawings, sheets/fig.

5. [ ] This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* *Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).*

** *Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report*

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

| | | | |
|---|---|---|---|
| Novelty (N) | Claims | 1 to 34 | YES |
| | Claims | | NO |
| Inventive step (IS) | Claims | 1 to 34 | YES |
| | Claims | | NO |
| Industrial applicability (IA) | Claims | 1 to 34 | YES |
| | Claims | | NO |

2. Citations and explanations (Rule 70.7)

D1) WO 99/45408

D2) WO 96/30913

D3) US 5365171

D4) GB 2254923

NOVELTY AND INVENTIVE STEP: CLAIMS 1-34

None of the documents cited disclose all of the features defined in any of your claims. In particular disclosing a method or apparatus of a NQR scanner for detecting the presence of a substance containing quadrupole nuclei within an object comprising; a pulse generating means; a high power RF transmit amplifier; a high Q tuneable coil; a power matching unit; an electromagnetic shield around the coil; a tuning sub-system to determine if the introduction of the object into the scan volume altered the resonant frequency of the scanning for the substance, and to retune the scanner to the requisite resonant frequency; a Q switch that reduces coil ring down time to allow measurement of the NQR signal; an amplifier on the received signal path; a processing means to separate out the phase and amplitude and control the pulse generating means; an isolator; a comparator of the phase and amplitude of the received signal with a known range or prescribed threshold; and a detection means to detect whether the measured signal corresponds to a NQR signal emitted by the nuclei of the substance being tested, and if present issue an alarm to notify the operator of the scanner that quadrupole nuclei has been detected within the object. As a result the claims are all considered to be both novel and inventive.

INDUSTRIAL APPLICABILITY: CLAIMS 1-34

The claims clear satisfy the criterion of industrial applicability.